CLAIMS

1. Lighter than air aircraft characterised in that it comprises at least two balloons (1) connected together by connecting means forming a chassis (2).

2. Aircraft according to claim 1, characterised in that the said connecting means (2) are connected to the said balloons (1) through an electromagnetic type connection.

3. Aircraft according to claim 1, characterised in that the said connecting means (2) are connected to at least one of the said balloons (1) through a mechanical connection articulated about at least one axis (22) approximately parallel to the longitudinal axis of the said aircraft.

4. Aircraft according to any one of claims 1 to 3, characterised in that the said balloon(s) (1) on one side of the said connecting means (2) are connected to the said balloon(s) (1) on the other side of the said connecting means (2) by elastic means (11).

5. Aircraft according to any one of claims 1 to 4, characterised in that the said chassis (2) includes carrying means (24) designed to support equipment and / or at least one person.

6. Aircraft according to claim 5, characterised in that the said carrying means (24) are essentially within the volume lying between the said balloons (1).

7. Aircraft according to any one of claims 1 to 6, characterised in that the said balloons (1) and the said

connecting means (2) together form an essentially symmetric assembly.

8. Aircraft according to any one of claims 1 to 7, characterised in that it comprises a balloon (1) on each side of the said connecting means (2).

9. Aircraft according to any one of claims 1 to 7, characterised in that it comprises two balloons (1) on each side of the said connecting means (2).

10. Aircraft according to claim 9, characterised in that the said balloons (1) lie in an approximately horizontal plane.

11. Aircraft according to claim 9, characterised in that the said two balloons (1) on the same side of the said connecting means (2) are placed one above the other.

12. Aircraft according to any one of claims 1 to 11, characterised in that the aircraft comprises means of propulsion and / or controlling the stability of the said aircraft.

13. Aircraft according to claim 12, characterised in that the said propulsion means comprise at least one first engine (35) capable of producing a thrust along the longitudinal axis of the said aircraft and located at or close to the centre of gravity of the said aircraft.

14. Aircraft according to claim 12 or to claim 13, characterised in that it comprises pitch control means.

15. Aircraft according to claim 14, characterised in that the said pitch control means preferably include at least two engines (31), (32) installed approximately on the longitudinal axis of the said aircraft, one forward

from the centre of gravity of the said aircraft, and the other aft from the centre of gravity of the said aircraft.

16. Aircraft according to any one of claims 11 to 15, characterised in that it comprises roll control means.

17. Aircraft according to claim 16, characterised in that the said roll control means preferably comprise at least two engines (33), (34) installed on each side of the longitudinal axis of the said aircraft, in an approximately horizontal plane.

18. Aircraft according to claims 16 and 17, characterised in that the said roll control engines (33), (34) are mounted on an axis perpendicular to the longitudinal axis of the said aircraft and passing through the centre of gravity of the said aircraft or close to it.

19. Aircraft according to any one of claims 11 to 18, characterised in that the said stability control means (31), (32), (33), (34) can act on the altitude of the said aircraft.

20. Aircraft according to any one of claims 11 to 19, characterised in that the said propulsion means also comprise a means of displacing the said aircraft laterally.

21. Aircraft according to claim 20, characterised in that the said lateral displacement means comprise at least two lateral engines (36), (37), capable of producing thrusts in opposite directions along a

horizontal axis perpendicular to the longitudinal axis of the said aircraft and passing through or close to the centre of gravity of the said aircraft.

22. Aircraft according to any one of claims 1 to 21, characterised in that it comprises directional means.

23. Aircraft according to claim 22, characterised in that the said directional means comprise at least one control surface.

24. Aircraft according to claim 23, characterised in that it comprises at least one left control surface (41) and at least one right control surface (42) mounted at the aft of the said aircraft.

25. Aircraft according to any one of claims 1 to 24, characterised in that it comprises at least one vertical stabiliser (51), (52).

26. Aircraft according to claims 22 and 25, characterised in that it comprises at least one control surface (511) mounted on the said vertical stabiliser.

27. Aircraft according to any one of claims 22 to 26, characterised in that the said directional means comprise at least one orientation engine installed so as to produce at least a thrust transverse to the longitudinal axis of the said aircraft.

28. Aircraft according to claim 27, characterised in that the said directional means comprise at least two orientation engines (38), (39) mounted with respect to each other so as to produce thrusts in approximately opposite directions.

29. Aircraft according to any one of claims 1 to 28, characterised in that it comprises remote control means, with or without wire.

30. Aircraft according to any one of claims 1 to 29, characterised in that the said balloons (1) are approximately cylindrical in shape.

31. Aircraft according to any one of claims 1 to 30, characterised in that it comprises onboard means belonging to the following group:

- picture taking means,
- communication and / or telecommunication means;
- sound pickup means;
- meteorological data acquisition means;
- radiation measurement means;
- air analysis means;
- geographic positioning means;
- means of measuring the speed of objects on the ground and / or in the air and / or at sea.